

IN THE CLAIMS:

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1. (original) A mobile body controller driven by a synchronous motor comprising:

a rotor position estimator which estimates a magnetic pole position of a rotor of said synchronous motor based on electrical quantities in relation to electric power supplied to said synchronous motor; and

a mobile body position estimator which estimates the position of said mobile body based on the magnetic pole position estimated by said rotor position estimator.

2. (original) A mobile body controller as claimed in Claim 1, further comprising a motor speed command generator which controls the speed of said synchronous motor based on the position command and the position of said mobile body estimated by said mobile body position estimator.

3. (currently amended) A mobile body controller as claimed in Claim 1, further comprising a mobile body position indicator which displays information on the position of said mobile body estimated by said mobile body position estimator.

4. (previously amended) A mobile body controller as claimed in Claim 1, further comprising position information correcting means which corrects the

position of said mobile body estimated by said mobile body position estimator based on absolute position information of said mobile body.

5. (original) A mobile body controller as claimed in Claim 4, wherein said absolute position information is position information obtained when said mobile body passes by a fixed point installed in the traveling area of said mobile body.

6. (original) A mobile body controller as claimed in Claim 5, wherein correcting operation by said position information correcting means is enabled when said mobile body exists in the vicinity of said fixed point.

7. (previously amended) A mobile body controller as claimed in Claim 1, wherein the initial value of the position of said mobile body estimated by said mobile body position estimator is set based on the absolute position information of said mobile body.

8. (original) A method of controlling a mobile body driven by a synchronous motor comprising the steps of:

estimating a magnetic pole position of a rotor of said synchronous motor based on electrical quantities in relation to electric power supplied to said synchronous motor, and

estimating the position of said mobile body based on said magnetic pole position estimated in the previous step.

9. (original) A method of controlling a mobile body as claimed in Claim 8, comprising the further step of:

correcting the position of said mobile body estimated by said second step based on absolute position information of said mobile body.

10. (original) A method of controlling a mobile body as claimed in Claim 8, comprising the further step of:

c1 setting the initial value of the position of said mobile body estimated by said first step based on absolute position information of said mobile body.

11. (previously amended) A mobile body system, comprising:

a mobile body driven by a synchronous motor; and

a controller which controls the speed of said synchronous motor so that the position of said mobile body approaches the position command,

said controller having

a rotor position estimator which estimates a magnetic pole position of a rotor of said synchronous motor based on electrical quantities in relation to electric power supplied to said synchronous motor,

a mobile body position estimator which estimates the position of said mobile body based on the magnetic pole position estimated by said rotor position estimator, and

a motor speed command generator which controls the speed of said synchronous motor based on the position command and the position of said mobile body estimated by said mobile body position estimator.

12. (original) A mobile body system as claimed in Claim 11, further comprising position information correcting means which corrects the position of said mobile body estimated by said mobile body position estimator based on absolute position information of said mobile body.

C 13. (original) A mobile body system as claimed in Claim 11, wherein the initial value of the position of said mobile body estimated by said mobile body position estimator is set based on the absolute position information of said mobile body.

14. (currently amended) A mobile body controller as claimed in Claim 2, further comprising a mobile body position indicator which displays information on the position of said mobile body estimated by said mobile body position estimator.

15. (previously added) A mobile body controller as claimed in Claim 2, further comprising position information correcting means which corrects the position of said mobile body estimated by said mobile body position estimator based on absolute position information of said mobile body.

16. (previously added) A mobile body controller as claimed in Claim 2, wherein the initial value of the position of said mobile body estimated by said mobile body position estimator is set based on the absolute position information of said mobile body.

17. (previously added) A controller for a mobile body driven by a synchronous motor, the controller comprising:

a rotor position estimator which estimates a magnetic pole position of a rotor of said synchronous motor based on electrical quantities in relation to electric power supplied to said synchronous motor; and

a mobile body position estimator which estimates the position of said mobile body based on the magnetic pole position estimated by said rotor position estimator, the estimated position being usable to control the mobile body.

18. (previously added) A method of controlling a mobile body driven by a synchronous motor comprising the steps of:

estimating a magnetic pole position of a rotor of said synchronous motor based on electrical quantities in relation to electric power supplied to said synchronous motor, and

estimating the position of said mobile body based on said magnetic pole position estimated in the previous step, the estimated position being usable to control the mobile body.

19. (new) A mobile body controller as claimed in claim 1, wherein said mobile body is an elevator car.

20. (new) A mobile body controller as claimed in claim 2, wherein said mobile body is an elevator car.

21. (new) A mobile body controller as claimed in claim 19, further comprising a mobile body position indicator, which displays the position information along floors or an elevator shaft of said elevator car estimated by said mobile body position estimator.

22. (new) A mobile body controller as claimed in claim 20, further comprising a mobile body position indicator, which displays the position information along floors or an elevator shaft of said elevator car estimated by said mobile body position estimator.

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(Applicants' remarks are set forth herein below starting on the following page).